In the Claims

1. (Previously Presented) A method for eliminating near-end crosstalk in a digital subscriber line (DSL) system, comprising:

detecting crosstalk on a first line communicating a first signal in a first direction, the crosstalk generated by communication of a second signal occurring on a second line, the second signal communicated in a second direction opposite the first direction;

determining a phase of the crosstalk detected on the first line; and

communicating the first signal on the first line in response to the phase.

2. (Original) The method of Claim 1, further comprising selecting an arbitrary phase for the first signal if a communication device coupled to the first line fails to detect the crosstalk.

3. (Previously Presented) The method of Claim 1, wherein determining a phase of the crosstalk detected on the first line comprises:

detecting a pulse sequence associated with the second signal communicated on the second line, the pulse sequence comprising a plurality of first pulses communicated in the first direction and a plurality of second pulses communicated in the second direction; and

setting the phase of the first signal based on the pulse sequence.

4. (Previously Presented) The method of Claim 1, wherein determining the phase of the crosstalk detected on the first line comprises:

detecting a data pulse associated with the second signal communicated on the second line based on an width associated with the data pulse; and

setting the phase of the first signal based on the width of the data pulse.

5. (Previously Presented) The method of Claim 1, wherein determining the phase of the crosstalk detected on the first line comprises:

detecting a control pulse associated with the second signal communicated on the second line based on an amplitude associated with the control pulse; and

setting the phase of the first signal based on the amplitude of the control pulse.

6. (Original) The method of Claim 1, further comprising monitoring a third line for interference generated by a third signal after communicating the first signal on the first line.

7. (Original) The method of Claim 1, further comprising:

monitoring a third line for interference generated by a third signal after communicating the first signal on the first line; and

receiving a control signal from a remote device if a communication device coupled to the first line fails to detect the interference on the third line.

8. (Original) The method of Claim 1, further comprising:

monitoring a third line for interference generated by a third signal after communicating the first signal on the first line;

receiving a control signal from a remote device if a communication device coupled to the first line fails to detect the interference on the third line;

determining if a control phase associated with the control signal is correct; and

adjusting the control phase if the communication device receives the control signal when the third signal is being communicated on the third line.

9. (Original) The method of Claim 1, further comprising:

monitoring a third line for interference generated by a third signal after communicating the first signal on the first line;

receiving a control signal from a remote device if a communication device coupled to the first line fails to detect the interference on the third line;

determining if a control phase associated with the control signal is correct;

adjusting the control phase if the communication device receives the control signal when the third signal is being communicated on the third line; and

communicating a command on the first line to the remote device, the command operable to initiate communication of a data signal from the remote device.

10. (Original) The method of Claim 1, wherein the first and second lines comprise twisted pair wiring.

11. (Original) The method of Claim 1, wherein the first signal is communicated using a time domain duplexing (TDD) technique.

12. (Original) The method of Claim 1, further comprising:

monitoring a third line for interference generated by a third signal after communicating the first signal on the first line; and

ending communication of the first signal on the first line if a communication device coupled to the first line detects interference on the third line.

13. (Previously Presented) A method for eliminating near-end crosstalk on adjacent lines in a digital subscriber line (DSL) system, comprising:

detecting crosstalk on a first line communicating a first signal in a first direction, the crosstalk generated by communication of a second signal occurring on a second line, the second signal communicated in a second direction opposite the first direction;

synchronizing a first downstream signal with a second downstream signal communicated on the second line by matching a first phase associated with the first downstream signal to a second phase associated with the second downstream signal; and

communicating the first downstream signal on the first line in response to the first phase.

14. (Original) The method of Claim 13, further comprising selecting an arbitrary phase for the first downstream signal if crosstalk is not detected.

15. (Previously Presented) The method of Claim 13, wherein synchronizing a first downstream signal with the second downstream signal comprises:

detecting a pulse sequence associated with the second downstream signal, the pulse sequence comprising a plurality of first pulses communicated in the first direction and a plurality of second pulses communicated in the second direction; and

setting the first phase of the first downstream signal based on the pulse sequence.

16. (Previously Presented) The method of Claim 13, wherein synchronizing a first downstream signal with the second downstream signal comprises:

detecting a data pulse associated with the second downstream signal based on an width associated with the data pulse; and

setting the first phase of the first downstream signal based on the width of the data pulse.

17. (Previously Presented) The method of Claim 13, wherein synchronizing a first downstream signal with the second downstream signal comprises:

detecting a control pulse associated with the second downstream signal based on an amplitude associated with the control pulse; and

setting the first phase of the first downstream signal based on the amplitude of the control pulse.

18. (Original) The method of Claim 13, further comprising:

monitoring a third line for interference generated by a third downstream signal after communicating the downstream signal on the first line; and

receiving an upstream control signal on the first line if interference is not detected on the third line.

19. (Original) The method of Claim 13, further comprising:

monitoring a third line for interference generated by a third downstream signal after communicating the first downstream signal on the first line;

receiving an upstream control signal on the first line if interference is not detected on the third line;

determining if a control phase associated with the upstream control signal is correct; and

adjusting the control phase if the upstream control signal is received when the third downstream signal is being communicated on the third line.

20. (Previously Presented) A communication device, comprising:

an interface operable to couple to a network and receive communication from a first line;

a detector coupled to the interface, the detector operable to detect crosstalk on the first line communicating a first signal in a first direction, the crosstalk generated by communication of a second signal occurring on a second line, the second signal communicated in a second direction opposite the first direction; and

a control unit coupled to the interface and the detector, the control unit operable to:

determine a phase of the crosstalk detected on the first line; and

communicate the first signal on the first line in response to the phase.

21. (Original) The communication device of Claim 20, wherein the control unit is further operable to select an arbitrary phase for the first signal if no crosstalk is detected on the first line.

22. (Previously Presented) The communication device of Claim 20, wherein the control unit determines the phase of the crosstalk by:

detecting a pulse sequence associated with the second signal communicated on the second line, the pulse sequence comprising a plurality of first pulses communicated in the first direction and a plurality of second pulses communicated in the second direction; and

setting the phase of the first signal based on the pulse sequence.

23. (Previously Presented) The communication device of Claim 20, wherein the control unit determines the phase of the crosstalk by:

detecting a data pulse associated with the second signal communicated on the second line based on an width associated with the data pulse; and

setting the phase of the first signal based on the width of the data pulse.

24. (Previously Presented) The communication device of Claim 20, wherein the control unit determines the phase of the crosstalk by:

detecting a control pulse associated with the second signal communicated on the second line based on an amplitude associated with the control pulse; and

setting the phase of the first signal based on the amplitude of the control pulse.

25. (Original) The communication device of Claim 20, wherein the detector is further operable to monitor a third line for interference generated by a third signal after communicating the first signal on the first line.

26. (Original) The communication device of Claim 20, wherein:

the detector is further operable to monitor a third line for interference generated by a third signal after communicating the first signal on the first line; and

the control unit is further operable to receive a control signal from the first line if no interference is detected on the third line.

27. (Original) The communication device of Claim 20, wherein:

the detector is further operable to monitor a third line for interference generated by a third signal after communicating the first signal on the first line; and

the control unit is further operable to:

receive a control signal from the first line if no interference is detected on the third line;

determine if a control phase associated with the control signal is correct; and

adjust the control phase if the detector receives the control signal when the third signal is being transmitted on the third line.

28. (Original) The communication device of Claim 20, wherein:

the detector is further operable to monitor a third line for interference generated by a third signal after communicating the first signal on the first line; and

the control unit is further operable to:

receive a control signal from a the first line if no interference is detected on the third line;

determine if a control phase associated with the control signal is correct;

adjust the control phase if the detector receives the control signal when the third signal is being transmitted on the third line; and

communicate a command to the first line, the command operable to initiate communication of a data signal from a remote device.

29. (Original) The communication device of Claim 20, wherein the control unit communicates the first signal on the first line using a time domain duplexing (TDD) technique.

30. (Previously Presented) Logic encoded in media for eliminating near-end crosstalk in a communication network and operable to perform the following steps:

detecting crosstalk on a first line communicating a first signal in a first direction, the crosstalk generated by communication of a second signal occurring on a second line, the second signal communicated in a second direction opposite the first direction;

determining a phase of the crosstalk detected on the first line; and

communicating the first signal on the first line in response to the phase.

31. (Previously Presented) The logic of Claim 30, wherein determining a phase of the crosstalk detected on the first line comprises:

detecting a pulse sequence associated with the second signal communicated on the second line, the pulse sequence comprising a plurality of first pulses communicated in the first direction and a plurality of second pulses communicated in the second direction; and

setting the phase of the first signal based on the pulse sequence.

32. (Previously Presented) The logic of Claim 30, wherein determining the phase of the crosstalk detected on the first line comprises:

detecting a data pulse associated with the second signal communicated on the second line based on an width associated with the data pulse; and

setting the phase of the first signal based on the width of the data pulse.

33. (Previously Presented) The logic of Claim 30, wherein determining the phase of the crosstalk detected on the first line comprises:

detecting a control pulse associated with the second signal communicated on the second line based on an amplitude associated with the control pulse; and

setting the phase of the first signal based on the amplitude of the control pulse.

34. (Original) The logic of Claim 30, further comprising:

monitoring a third line for interference generated by a third signal after communicating the first signal on the first line; and

receiving a control signal from the remote device if a communication device coupled to the first line fails to detect the interference on the third line.

35. (Original) The logic of Claim 30, further comprising:

monitoring a third line for interference generated by a third signal after communicating the first signal on the first line;

receiving a control signal from a remote device if a communication device coupled to the first line fails to detect the interference on the third line;

determining if a control phase associated with the control signal is correct;

adjusting the control phase if the communication device receives the control signal when the third signal is being communicated on the third line; and

communicating a command to the remote device, the command operable to initiate communication of a data signal from the remote device.

36. (Previously Presented) A apparatus for eliminating near-end crosstalk in a communication network, comprising:

means for detecting crosstalk on a first line communicating a first signal in a first direction, the crosstalk generated by communication of a second signal occurring on a second line, the second signal communicated in a second direction opposite the first direction;

means for determining a phase of the crosstalk detected on the first line; and

means for communicating the first signal on the first line in response to the phase.